

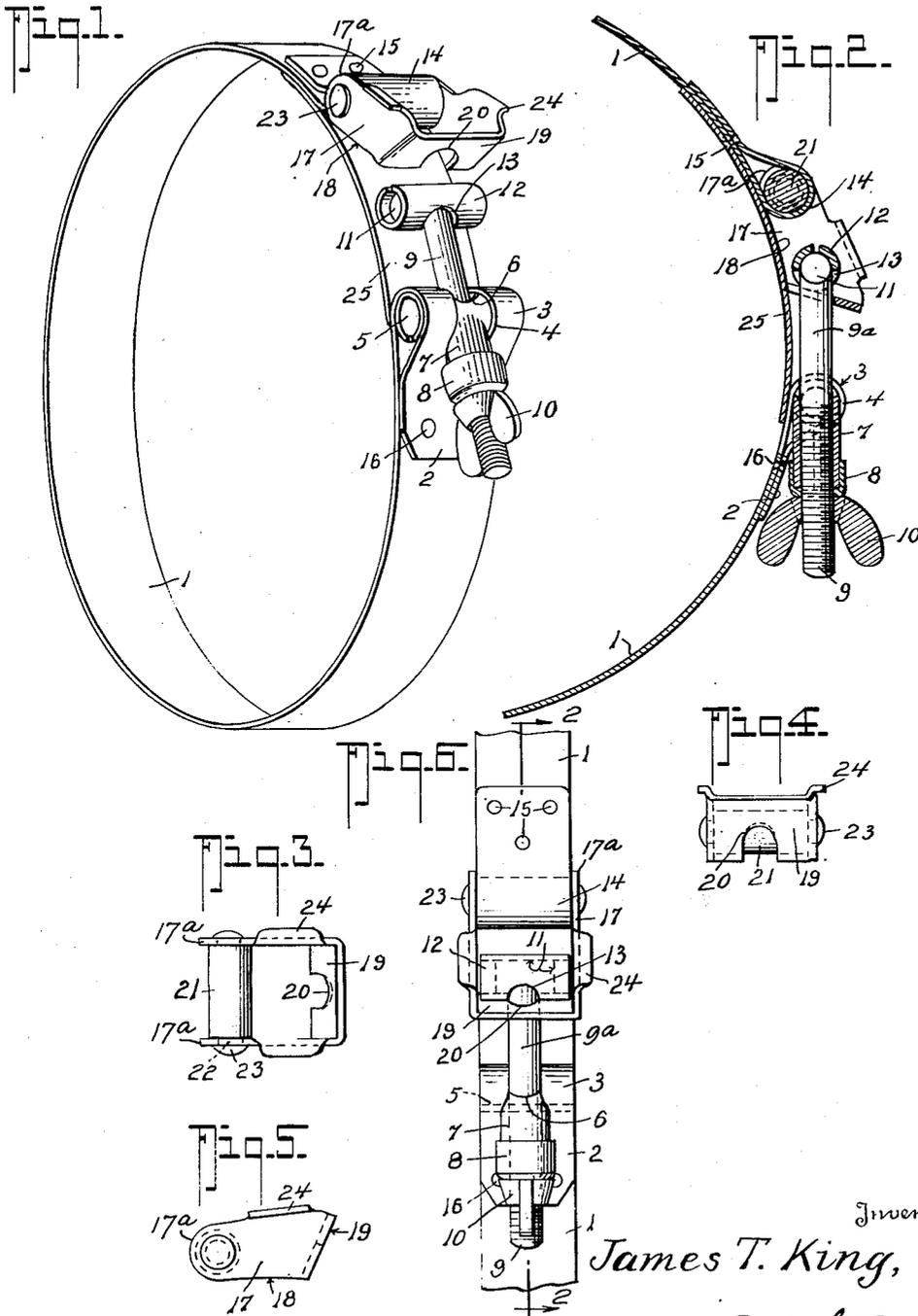
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2,368,929

QUICK-COUPLING CLAMP

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# UNITED STATES PATENT OFFICE

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## QUICK-COUPLING CLAMP

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2 Claims. (Cl. 24-19)

My invention relates to the art of clamps and particularly to clamps for securing hose to tubular bodies.

The invention particularly has for its object to provide a clamp that can be used to advantage on such installations as aircraft oxygen supply bottles, fire extinguishers, hot and cold air ducts, first aid kits, fuel and oil supply tank strap assemblies, etc.

Another object of the invention is to provide a clamp of the general type disclosed in my United States Patent #2,270,375, issued January 20, 1942, with means that makes the clamp a quick-coupling clamp that requires no tools to install.

More specifically the invention has for an object to provide a latch device carried by one end of the strap to cooperate with the head of a T-bolt that is carried by a trunnion which is mounted on the other end of the strap, so that in connecting or applying the clamp or disconnecting or removing the clamp the bolt does not have to be disconnected from the trunnion and the nut does not have to be removed from the bolt.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first full described in the following detailed description, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawing, in which,

Fig. 1 is a perspective view of the invention with the latch disconnected from the bolt.

Fig. 2 is a detail longitudinal section taken on the line 2-2 of Fig. 6 with the latch and bolt connected.

Fig. 3 is a top plan view of the latch.

Fig. 4 is a front elevation of the same.

Fig. 5 is a side elevation of the same.

Fig. 6 is an elevation of the parts shown in Fig. 2 looking from right to left in that figure.

In the drawing in which like numbers of reference indicate like parts in all the figures, 1 indicates a band of steel (preferably rustless, flexible sheet steel) to one end of which the latch 17 is attached and on the other end of which the bolt 9 is mounted.

The end of the strap on which the bolt is mounted is doubled back as at 2 to form a loop 3 in which the trunnion 5 is pivoted, the loop 3 being slotted as at 4 to permit passage of the guide 7. The bolt 9 passes through the guide 7 and its cap 8 and carries a suitable nut 10, a

wing nut being shown for purposes of illustration. The trunnion 5 is apertured as at 6 for the bolt 9 to pass through. The bolt 9 has a head 11 which may be provided with a split sleeve 12 apertured, as at 13, for the passage of the shank 9a of the bolt.

The latch comprises the U-shaped body whose under side 18 is preferably curved to the general contour of the strap, and whose sides 17 are provided with wings 24 to serve as finger engagements. The front wall 19 of the latch is slotted as at 20 to fit over the bolt 9. The sides of the latch are joined at their ends 17a by a cross lug 21 having reduced ends 22 to fit apertures in the side walls of the latch body and be riveted over as at 23 to hold the lug in place so as to constitute a pivot for the loop 14 of the strap 1. It will be observed that the front wall 19 of the latch does not lie parallel to a radius of the strap when in operative position but lies at an inclination thereto in a direction that will cause the T-head 11, 12 to be drawn into the slot 20 when the nut 10 is tightened and at the same time force the latch against the underlying strap extension 25. The extension may be secured to the strap by the rivets 15 if desired. The doubled back ends of the strap may be secured in any suitable way, as for example by rivets 15, 16 as may be found desirable.

My invention, obviously, is particularly adapted to provide a simple and secure connecting means for the dust and moisture proof seal covers used on electrical generators, engine starters, and other electrical units. The removable dust covers are necessary so that adjustments, repairs or replacements can be made to the internal mechanism of the electrical unit. This improved quick-coupling clamp is to replace the present form of connecting mediums which use various forms of spring-tensioned devices with no apparent take-up for adjustment.

The clamp is not at all critical to undersized and oversized diameters and plenty of take-up is still available when new and thicker cushioning material is put under the seal clamp. Frequent assembly and disassembly of the clamp will not shorten its lifetime. At all times when tensioned it provides a safely secured seal band clamp impervious to entrance of dust, moisture or gas vapors.

From the foregoing it is thought the construction, operation and advantages of the invention will be clear to those skilled in the art to which it appertains.

What I claim is:

1. In a clamp of the type stated wherein is provided a strap to one end of which a trunnion carrying a T-bolt and nut is secured: the improvement which comprises a pivoted latch member attached to the other end of the strap and having provision for the quick reception and removal of the T-head of the bolt, said latch member comprising a U-shaped body having a front wall and sides, the sides at their ends remote from the front wall being connected by a lug

serving as the pivot to which the strap end is connected, the front wall having an open slot to fit over the bolt behind the head thereof.

2. The clamp of claim 1 characterized in this that the latch is pivoted to the strap and has a front wall that is provided with an open slot to fit over the bolt behind the head thereof, said front wall being inclined in a direction to cause the bolt to seat in the slot when the nut is tightened and the latch to be pressed against the strap.

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